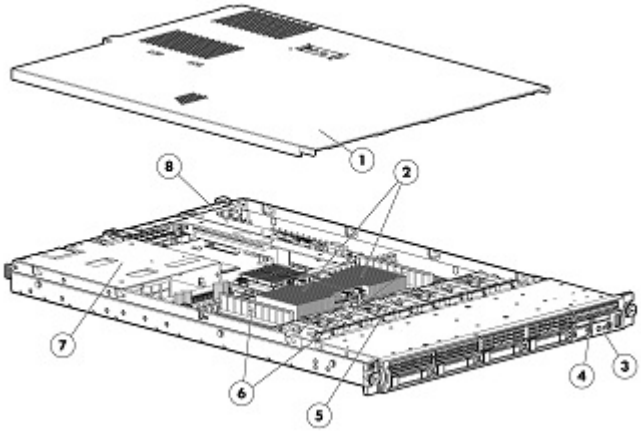
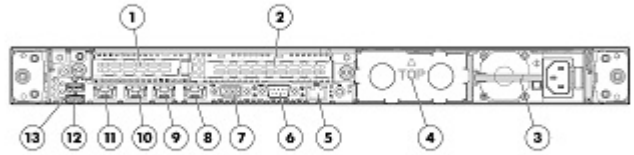
Overview

The HP ProLiant DL360 G7 combines performance, intelligent power and cooling management with IT management tools and essential fault tolerance, all optimized for space constrained installations. A 1U server with the improved performance of the latest Intel 5600 series processors, Unique HP Thermal Logic Technologies that provide leadership in energy efficiencies and ProLiant iLO 3 remote management. HP continues to provide more performance, flexibility and efficiency for space constrained environments.





Front View:

1. Hood Cover
2. Up to two Intel processors
3. Video connector
4. Slide-out System Insight Display (SID)
5. Removable fan modules for easy serviceability
6. Eighteen DIMM slots: DDR3 Registered (RDIMM) or Unbuffered (UDIMM) memory
7. Redundant Hot Plug Power Supplies (upgradeable option)
8. 2 PCI-E Slots

Rear View:

1. PCI Express expansion slot 1, low profile
2. PCI Express expansion slot 2 full-height full-length x16 (16, 8, 4, 2, 1), 75W +EXT 75W (option for PCI-X card only support)
3. Power supply bay 1 (populated)
4. Power supply bay 2
5. iLO 3 NIC connector
6. Serial connector
7. Video connector
8. NIC 4 connector
9. NIC 3 connector
10. NIC 2 connector
11. NIC 1 connector
12. USB connector
13. USB connector

What's New

- Support for new HP hard drives, UPS and NIC

Standard Features

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

Processor One of the following depending on Model	Six-Core Processors Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W, DDR3-1333, HT Turbo 1/1/1/2/2) Processor NOTE: Available on Factory Integrated Models only. Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W, DDR3-1333, HT Turbo 2/2/2/2/3/3) Processor Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W, DDR3-1333, HT Turbo 2/2/2/2/3/3) Processor Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W, DDR3-1333, HT Turbo 2/2/2/2/3/3) Processor Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W DDR3-1333, HT Turbo 2/2/2/2/3/3) Processor Intel® Xeon® L5640 (2.26GHz/6-core/12MB/60W, DDR3-1333, HT Turbo 2/2/3/3/4/4) Processor Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W, DDR3-1333, HT Turbo 1/1/1/1/2/2) Processor Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W, DDR3-1333, HT Turbo 1/1/1/1/2/2) Processor Quad-Core Processors Intel® Xeon® X5687 (3.60GHz/4-core/12MB/130W, DDR3-1333, HT Turbo 1/1/2/2) Processor NOTE: Available on Factory Integrated Models only. Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W, DDR3-1333, HT Turbo 2/2/3/3) Processor Intel® Xeon® X5667 (3.06GHz/4-core/12MB/95W, DDR3-1333, HT Turbo 2/2/3/3) Processor Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W, DDR3-1066, HT Turbo 1/1/2/2) Processor Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W, DDR3-1066, HT Turbo 1/1/2/2) Processor Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W, DDR3-1066, HT Turbo 1/1/2/2) Processor Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W, DDR3-800) Processor Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W, DDR3-800) Processor Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W, DDR3-800) Processor Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W, DDR3-1066, HT Turbo 1/1/2/2) Processor Dual-Core Processors Intel® Xeon® E5503 (2.0GHz/2-core/4MB/80W, DDR3-800) Processor NOTE: Up to 2 processors supported. Performance Model configurations include two processors. NOTE: HT indicates that the processor model supports Intel® /Hyper-Threading Technology NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 6,5,4,3,2 and 1(6 cores) or 4,3,2 and 1(4 cores) cores active. NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed. NOTE: For the Intel 5600 and 5500 Series, the letter preceding the model number indicated the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.
Cache Memory One of the following depending on Model	12MB (1 x 12MB) Level 3 cache NOTE: All processor models except for those identified below. 4MB (1 x 4MB) Level 3 cache NOTE: For processors E5506/E5503.

Standard Features

Chipset	Intel® 5520 Chipset NOTE: For more information regarding Intel® chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/.	
Upgradeability	Upgradeable to two processors	
Memory Protection	Advanced ECC (multi-bit error protection) Online Spare mode (available with Intel Xeon 5600 Series processors) Mirroring mode Lock-step mode	
Memory	Type	DDR3 Registered (RDIMM) or Unbuffered (UDIMM)
	DIMM Slots Available	18 (3 DIMM slots per Channel/3 channels per processor)
	Standard (Performance Models)	12GB (6 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Standard (Base Models)	6GB (3 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Standard (Entry Model)	4GB (2 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Standard (Efficiency Model)	4GB (2 x 2GB) PC3-10600E (DDR3-1333) Unbuffered DIMMs
	Maximum Capacity (RDIMM)	384GB (12 slots x 32GB @800MHz)
	Maximum Performance Capacity (RDIMM)	192GB (6 slots x 32GB @1066MHz)
	Maximum Capacity (UDIMM)	48GB (12 slots x 4GB @ 1333MHz)
	NOTE: If only one processor is installed, only half the DIMM slots are available. NOTE: When populating with two processors the 16GB or 32GB Memory Kits (Quad-Rank), only 12 DIMMs can be populated. NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1333MHz, 1066MHz, or 800MHz. Please see the Online Memory Configuration Tool at: www.hp.com/go/ddr3memory-configurator. NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.	
Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total) with TCP/IP Offload Engine, including support for Accelerated iSCSI	

Standard Features

Expansion Slots

Expansion Slots #	Technology	Bus Width*	Connector Width	Form Factor	Notes
1	PCI-e	x8	x8	Low profile slot	
2	PCI-e	x16	x16	Full-length, full-height slot	
2	PCI-X** (133 MHz, 3.3 Voltage)	64-bit		Full-length, full-height slot	

*Indicates the number of physical electrical lanes running to the connector.
** Indicates Option kit designed for PCI-X cards only.
NOTE: For external power requirements for PCI options a PCI Thermal-Power Kit is offered optionally for higher power requirements.
NOTE: Two PCI-Express Gen 2 expansion slots: (1) full-length, full-height slot and (1) low-profile slot. Optional PCI-X Riser expansion slot for PCI-X cards only.

Storage Controller
One of the following depending on Model

Entry Models	HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)
Base Models	HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)
Performance Models	HP Smart Array P410i/1G FBWC Controller (RAID 0/1/1+0/5/5+0)
Efficiency Models	HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)

Available Smart Array upgrades: 256MB, Battery kit upgrade (to add BBWC to the 256MB Memory option), 512MB BBWC, 512MB FBWC or 1G FBWC and Smart Array Advanced Pack (SAAP)

Internal Storage Devices

Diskette Drive	None
Optical Drive One of the following depending on Model	Optional: DVD-ROM, DVD-RW NOTE: This option available on 4 drive bay models only. Optional HP External USB CD/DVD R/RW for 8 drive models
Hard Drives	None Standard
Drive Bays	4 SFF Bays standard with option for up to 8 SFF drive bays total. NOTE: 4 bays standard in Entry, Base and CTO models, with optional upgrade to 8 bays with the SFF HD Backplane Kit (516966-B21). No CD or DVD options available when server is configured with 8 drive bays. NOTE: This option available for 8 drive models. HP External USB CD/DVD R/RW Drive available for 8 drive systems (must be ordered separately).

Maximum Internal Storage

Hot Plug SAS	7.2TB	8 x 900GB SAS
Hot Plug SATA	4.0TB	8 x 500GB SATA
Hot Plug SAS SSD	6.4TB	8 x 800GB SAS SSD

Standard Features

Interfaces

Serial	1
Video	1
Network RJ-45	4
iLO 3 remote RJ-45 management port	1
SD slot	1 Internal secure
USB 2.0 Ports	4 total: 2 rear, 1 front, 1 internal (secure) NOTE: Keyboard and Mouse access through USB ports. Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html.

NOTE: PS/2 ports have been removed for NIC expansion.

Industry Standard Compliance

ACPI 2.0b Compliant
PCI 2.2 Compliant
PXE Support
WOL Support
Microsoft® Logo certifications
USB 1.1 and 2.0 Compliant
SMBIOS 2.6.1

Server Power Cords

All Pre-configured Models servers ship with a high voltage server to PDU power cord.
NOTE: ProLiant DL servers do not ship standard with NEMA power cords that allow connection to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to PDU's in data center racks so they ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant DL server using a standard wall receptacle (NEMA-15), the NEMA power cord must be ordered separately and the server will be shipped with both cords. If the order is a Factory-Integration order only the NEMA-15 power will be shipped. See Power Cords in the Additional Options section below.

Common Slot Power Supplies

HP's Common Slot (CS) Power Supply bay design provides the customer with commonality in power supplies across multiple platforms, saving on the cost of spares and allows HP to offer multiple power solutions to fit the customers' needs. Many HP ProLiant Servers come with high-efficiency CS Power Supplies. HP's new CS power supplies are designed to provide power efficiency without degrading performance of the ProLiant. Power Supplies will have efficiency ratings up to 94%. There are multiple CS power output options available allowing you to "right-size" the most appropriate power supply option for your server configuration. Check the Power Supplies section for power sizes supported. To make sure you select the correct power supply to meet your configuration, we suggest that you use the HP Power Advisor to "right-size" a power supply option for your configuration. All HP Common Slot power sources are UL, CE Mark Compliant, Hot Plug and support redundant configurations. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor

NOTE: All HP Common Slot Power Supplies are not supported by all ProLiant Servers. Please check your server QuickSpecs to confirm support by that server.

HP's CS power supplies support multiple energy efficiency initiatives including Climate Savers Computing Initiative (CSCI) and ECOS Consulting/80PLUS ratings for Silver, Gold, and Platinum power efficiency.

Standard Features

Additionally, server models that meet efficiency requirements for Energy Star compliance will be published once testing has been completed.

HP's -48VDC power supply is designed for those environments that require DC Voltage to operate. This power supply supplies up to 1200Watts of power on 48 Volts DC and comes with a DC power cable.

Redundant Power: Optional (1+ 1 or n+n redundant) power supplies can be purchased through power supply option kits (see Redundant Options for part numbers).

System Fans

3 fan modules ship standard in 1 processor models
4 fan modules ship standard in 2 processor models
Fan redundancy standard with all modules
NOTE: The processor option kit contains 1 additional fan module, when upgrading from a 1 processor to two processor models. A Fan Module Option kit can also be purchased separately for use with PCI Graphics card upgrades. See HP PCI Thermal Power Kit (519254-B21) in the Core Options section.

Required Cabling

For required cabling information, refer to the Web site at: http://h18000.www1.hp.com/products/servers/proliantdl360/.

Operating Systems and Virtualization Software Support for ProLiant Servers

Microsoft Windows Server
Red Hat Enterprise Linux (RHEL)
SUSE Linux Enterprise Server (SLES)
Oracle Solaris
VMware
Citrix XenServer

NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server including how to purchase from HP, please visit our OS Support Site at: http://www.hp.com/go/ossupport and our driver download page www.hp.com/support/DL360G7.

Graphics

Integrated ATI ES1000, 32MB video standard

- 16 bit color: maximum resolution of 1600 x 1200
- 32 bit color: maximum resolution of 1280 x 1024

NOTE: Maximum resolution available via iLO 3 remote console for ProLiant is 1280 x 1024 (for 32 bit color) and 1600 x 1200 (DVR max resolution).

Form Factor

1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

Standard Features

HP Insight management software	HP Insight Foundation	Managing the growing number of servers can be complex and expensive for your organization. IT managers need to address changing business needs with tools that meet the challenges of managing today's complex Datacenters. HP provides management solutions that are designed to simplify a server's installation, configuration and maintenance throughout the entire server lifecycle. This provides the customer with higher levels of operational efficiency and highly reliable systems: www.hp.com/go/foundation. The foundation pack includes: • HP SmartStart • HP Management DVD • HP ProLiant Smart Update Firmware DVD SmartStart version supported (minimum): SmartStart 8.40. http://www.hp.com/servers/smartstart NOTE: In an effort to support reducing our environmental impact, the HP Insight Foundation Suite for ProLiant media will be available as a selectable option for this server at time of order of a CTO SKU. This will allow customers to order the number of media kits that best meet their needs and eliminate receiving unnecessary duplicate media.
	HP Integrated Lights-Out 3 (iLO 3)	HP Integrated Lights-Out 3 (iLO) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP iLO functions without additional software and can be accessed from any location via a web browser. HP iLO works hand-in-hand with HP Systems Insight Manager, Insight Control suites, and Insight Dynamics for ProLiant, helping customers unleash the value of the ProLiant platform and deliver the highest possible quality of IT service. For more information, visit: www.hp.com/go/iLO

Security	Power-on password Keyboard password QuickLock, Network Server Mode Serial interface control Administrator's password iLO 3 (Integrated Lights-Out 3) has 12 customizable user accounts and SSL encryption iLO 3 can be disabled via a Global Setting iLO Advanced supports directory services integration

Standard Features

Warranty	This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details. NOTE: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

Optional Features

HP Insight management software	HP Insight Control	HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. Two versions of Insight Control are available, to serve environments requiring either a Linux-based or a Windows-based central management server: HP Insight Control for Linux, and HP Insight Control. See www.hp.com/go/insightcontrol HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, please visit: http://www.hp.com/services/insight.
	HP Insight Dynamics for ProLiant	HP Insight Dynamics for ProLiant, a product option, is advanced infrastructure management software that enables IT staff to instantly adjust their environments to meet dynamic business demands by provisioning, optimizing and protecting complex infrastructure in minutes. It's a powerful toolkit, integrated-by-design, that accelerates complex technology projects and simplifies daily operations, transforming data center economics. With Insight Dynamics IT professionals can plan capacity and power continuously, balance workloads across physical and virtual resources, and ensure cost-effective high availability. It also enables IT organizations to provision infrastructure consistently and automatically from pools of shared resources using a self-service portal. Resources provisioned can range from a single virtual machine to complex multi-tier environments and their associated physical and virtual resource requirements. In addition to the previous functional benefits, it also provides a cost-effective disaster recovery for physical and virtual environments that works with HP Continuous Access software for both the Enterprise Virtual Array and the XP storage array allowing application environments to be reactivated in minutes with the touch of a button to a remote location. NOTE: For more information, visit: http://www.hp.com/go/insightdynamics

Optional Features

High Performance Clusters	HP Cluster Platforms	HP Cluster Platforms are specifically engineered, factory-integrated large-scale ProLiant clusters optimized for High Performance Computing, with a choice of servers, networks and software. Operating system options include specially priced offerings for Red Hat Enterprise Linux and Novell SLES, as well as Microsoft Windows HPC Server. A Cluster Platform Configurator simplifies ordering. http://www.hp.com/go/clusters
	HP HPC Interconnects	High Performance Computing (HPC) interconnect technologies are available for this server as part of the HP Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by HP when integrated within an HP cluster. Flexible, validated solutions can be defined with the help of configuration tools. http://www.hp.com/techservers/clusters/ucp/index.html
	HP Cluster Management Utility	HP Cluster Management Utility (CMU) is an HP-licensed and HP-supported suite of tools that are used to manage large-scale Linux ProLiant systems. CMU includes software for the centralized provisioning, management and monitoring of nodes. CMU makes the administration of clusters user friendly, efficient, and effective. http://www.hp.com/go/cmu
	HP HPC Linux Value Pack	HP HPC Linux Value Pack (Value Pack) is an HP-licensed and HP-supported specially priced software bundle for the development and deployment of applications on HPC Cluster Platforms. Value Pack includes the Platform HPC Enterprise Edition suite of tools including the LSF workload scheduler, the HP-MPI parallelization library. Also included are the HP Unified Parallel C compiler and the HP Shmem library, as well as the execution environments for the libraries and compiler. HP HPC Linux Value Pack

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Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSAxxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services for your specific server model please contact your sales representative or go to: http://www.hp.com/go/factory-express.

HP Enterprise Configurator

The HP eConfigure-Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance. http://www.hp.com/products/configurator

Service and Support	**HP Technology Services for Industry Standard Servers and BladeSystem** Capitalizing on HP ProLiant server and HP BladeSystem capabilities requires a service partner who understands your increasingly complex business technology environment. That's why it makes sense to team up with the people who know HP infrastructure hardware and software best - the experienced professionals at HP Services. **What HP ProLiant and BladeSystem Services can do for you** HP ProLiant and BladeSystem Services can help you design, deploy, test, integrate, support, and manage IT and infrastructure solutions. This way, HP proposes services solutions that include more than just uplift of base warranty. You can get the support you need by choosing from one of a number of service packaged solutions we have designed to address wider set of customer support needs:. HP Technology Services meets business challenges with services offered in three packages - **Optimized Care Package, Standard Care Package, and Basic Care Package** - available for each product group. Such packaged solutions enable customers to optimize technology operations, minimize risk and drive better business outcomes with easy-to-buy, easy-to-use scalable support packages for servers, storage, networking and software.
Optimized Care Package	**Supports maintaining servers at optimum performance availability** **HP ProLiant Server Hardware Installation** Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN **HP Installation and Startup for Insight Control Software** Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA0-9972ENW.pdf **3-Year HP Critical Advantage** Provides end-to-end infrastructure support solution for business critical applications running on virtualized/x86 infrastructures, enabling the customers to cost effectively build, operate, and continuously improve their IT environment http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA3-1772ENW **Additional Services**: Microsoft or Linux or VMware education courses + Facility & technology environmental assessment services + Energy Efficiency Design, Factory Express
Standard Care Package	**Package that maintains high level of server availability** **HP ProLiant Server Hardware Installation** Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN **HP Installation and Startup for Insight Control Software** Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA0-9972ENW.pdf **3-Year HP 6 hour Hardware Support Onsite Call-to-Repair Service**

	Provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 hours of the initial service request to the HP Global Solution Center http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN.pdf 3-Year , HP 24x7 Software Support for Insight Control Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6645EEE.pdf Additional Services - Software OS (Microsoft, Linux (SUSE/Red Hat) & VMware Installation & Start Up, and Software Support; Install and Startup Services for Insight Control; Microsoft or Linux or VMware education courses; +30 Proactive Select Credits, Factory Express
Basic Care Package	Delivers minimum recommended support service level HP ProLiant Server Hardware Installation Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN HP Installation and Startup for Insight Control Software Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA0-9972ENW.pdf 3-Year HP 24x7 4 hour Response, Hardware Support Onsite Service Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA0-9972ENW.pdf 3-Year , HP 24x7 Software Support for Insight Control Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6645EEE.pdf Additional Services: Software OS (Microsoft, Linux (SUSE/Red Hat) & VMware Installation & Start Up and Software Support); +10 Proactive Select Credits, Factory Express
Insight Remote Support	The packages include HP Insight Remote Support that uses proven technology to deliver secure, reliable 24x7 remote monitoring, diagnoses, and problem resolution. It is available at no additional cost to all warranty, HP Care Pack Service, and service agreement customers.
For more information	To learn more on HP ProLiant servers and HP BladeSystem servers, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: http://www.hp.com/services/proliant

Pre-configured Models

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.
NOTE: Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
NOTE: HP does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
NOTE: If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

Performance Models

Six-Core Model HP ProLiant DL360 G7 X5675 2P 12GB-R P410i/1GB FBWC 8 SFF SAS/SATA 460W PS Svr 636365-001 HP ProLiant DL360 G7 X5650 2P 12GB-R P410i/1GB FBWC 8 SFF 460W 92 EFF RPS IC Svr 579239-001	Processor(s)	(2) Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W, DDR3-1333, HT Turbo 2/2/2/2/3/3) Processors (2) Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W DDR3-1333, HT Turbo 2/2/2/2/3/3) Processors
	Cache Memory	12MB (1 x 12MB) Level 3 cache
	Memory	12 GB (6 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs NOTE: Total of 18 DDR3 DIMM slots.
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4 x 1Gb Ports)
	Storage Controller	HP Smart Array P410i/1GB FBWC
	Hard Drive	None ship standard
	Internal Storage	8 SFF SAS/SATA HDD Bays
	Optical Drive	Not available for 8 drive models
	PCI-Express Slots	PCIe 2.01-full-length, full-height and 1-low profile
	Power Supply	Two 460W Common Slot Gold Hot Plug Power Supplies, redundant
	Fans	4 total fans, redundancy standard
	Insight Control	HP Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Pre-configured Models

Base Models

Six-Core Models HP ProLiant DL360 G7 E5649 1P 6GB-R P410i/256 4 SFF 460W RPS Server 633776-001 HP ProLiant DL360 G7 E5645 1P 6GB-R P410i/256 4 SFF 460W RPS Server 633777-001 HP ProLiant DL360 G7 E5640 1P 6GB-R P410i/256 4 SFF 460W RPS Server 579240-001 HP ProLiant DL360 G7 E5630 1P 6GB-R P410i/256 4 SFF 460W PS Base Server 579241-001	Processor(s) One of the following depending on Model	(1) Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W, DDR3-1333, HT Turbo 1/1/1/1/2/2) Processor (1) Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W, DDR3-1333, HT Turbo 1/1/1/1/2/2) Processor (1) Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W, DDR3-1066, HT Turbo 1/1/2/2) Processor (1) Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W, DDR3-1066, HT Turbo 1/1/2/2) Processor
	Cache Memory	12MB (1 x 12MB) Level 3 cache
	Memory	6 GB (3 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs NOTE: Total of 18 DDR3 DIMM slots.
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4 x 1Gb Ports)
	Storage Controller	HP Smart Array P410i/256MB Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays (with optional 4SFF HDD upgrade)
	Optical Drive	None ship standard
	PCI-Express Slots	PCIe 2.01-full-length, full-height and 1-low profile
	Power Supply	One 460W Common Slot Gold Hot Plug Power Supply
	Fans	3 total fans redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Entry Models

Quad-Core Models HP ProLiant DL360 G7 E5606 1P 4GB-R P410i/ZM 4 SFF 460W RPS Server 633778-001 HP ProLiant DL360 G7 E5506 1P 4GB-R P410i/ZM 4 SFF 460W RPS Server 579243-001	Processor(s) One of the following depending on Model	(1) Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W, DDR3-800) Processor (1) Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W, DDR3-800) Processor
	Cache Memory One of the following depending on Model	4MB (1 x 4MB) Level 3 cache 8MB (1 x 8MB) Level 3 cache
	Memory	4 GB (2 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs NOTE: Total of 18 DDR3 DIMM slots.
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4 x 1Gb Ports)
	Storage Controller	HP Smart Array P410i/Zero Memory Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays (with optional 4SFF HDD upgrade)
	Optical Drive	None ship standard
	PCI-Express Slots	PCIe 2.01-full-length, full-height and 1-low profile
	Power Supply	One 460W Common Slot Gold Hot Plug Power Supply
	Fans	3 total fans redundancy standard

Pre-configured Models

Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Efficiency Models

Quad-Core Models
HP ProLiant DL360 G7 L5630 1P 4GB-U P410i/ZM 4 SFF 460W PS Efficiency Server
579242-001

Processor(s)	(1) Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W, DDR3-1066, HT Turbo 1/1/2/2) Processor
Cache Memory	12MB (1 x 12MB) Level 3 cache
Memory	4 GB (2 x 2 GB) PC3-10600E (DDR3-1333) Unbuffered Memory NOTE: Total of 18 DDR3 DIMM slots.
Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4 x 1Gb Ports)
Storage Controller	HP Smart Array P410i/Zero Memory Controller
Hard Drive	None ship standard
Internal Storage	4 SFF SAS/SATA HDD Bays (with optional 4SFF HDD upgrade)
Optical Drive	None ship standard
PCI-Express Slots	PCIe 2.01-full-length, full-height and 1-low profile
Power Supply	One 460W Common Slot Platinum Hot Plug Power Supply
Fans	3 total fans redundancy standard
Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Smart Buys

HP DL360R07 E5506 US Svr/S-Buy 605881-005	**Processor(s)**	(1) Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80 Watts, DDR3-800)
	Memory	6GB (3x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4 x 1Gb Ports)
	Storage Controller	HP Smart Array P410i/256MB BBWC Memory Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays
	Optical Drive	HP DL360 SL 12.7mm SATA DVD-RW
	Power Supply	One 460W Hot Plug Power Supply
	Fans	fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
HP DL360R07 E5640 US Svr/S-Buy 605880-005	**Processor(s)**	(2) Intel® Xeon® Processor E5640 (2.66 GHz, 12MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2)
	Memory	12GB (6x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4 x 1Gb Ports)
	Storage Controller	HP Smart Array P410i/512MB FBWC Memory Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays
	Optical Drive	HP DL360 SL 12.7mm SATA DVD-RW
	Power Supply	(2) 460W Hot Plug Power Supply
	Fans	fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
HP DL360R07 X5660 US Svr/S-Buy 605879-005	**Processor(s)**	(2) Intel® Xeon® Processor X5660 (2.80 GHz, 12MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/2/2/3/3)
	Memory	12GB (6x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4 x 1Gb Ports)
	Storage Controller	HP Smart Array P410i/512MB FBWC Memory Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays
	Optical Drive	HP DL360 SL 12.7mm SATA DVD-RW
	Power Supply	(2) 460W Hot Plug Power Supply
	Fans	fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

Smart Buys

HP DL360 G7 E5606 US Svr/S-Buy 640010-005	Processor(s)	(1) Intel® Xeon® E5606 (2.13GHz/4-core/4MB/80W
	Memory	4GB (1x 4GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4 x 1Gb Ports)
	Storage Controller	HP Smart Array P410i/256MB BBWC Memory Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays
	Optical Drive	HP DL360 SL 12.7mm SATA DVD-RW
	Power Supply	(2) 460W Hot Plug Power Supply
	Fans	3 fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
HP DL360 G7 E5620 US Svr/S-Buy 650253-S01	Processor(s)	(1) Intel® Xeon® E5620 (2.40 GHz/4-core/12MB/80W)
	Memory	4GB (1x 4GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4 x 1Gb Ports)
	Storage Controller	HP Smart Array P410i/512MB FBWC Memory Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays
	Optical Drive	HP DL360 SL 12.7mm SATA DVD-RW
	Power Supply	(2) 460W Hot Plug Power Supply
	Fans	3 fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
HP DL360 G7 E5649 US Svr/S-Buy 640011-005	Processor(s)	(2) Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W)
	Memory	8GB (2x 4GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4 x 1Gb Ports)
	Storage Controller	HP Smart Array P410i/512MB FBWC Memory Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays
	Optical Drive	HP DL360 SL 12.7mm SATA DVD-RW
	Power Supply	(2) 460W Hot Plug Power Supply
	Fans	4fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

Smart Buys

HP DL360 G7 X5660 US Svr/S-Buy 640012-005	Processor(s)	(2) Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W)
	Memory	8GB (2x 4GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4 x 1Gb Ports)
	Storage Controller	HP Smart Array P410i/512MB FBWC Memory Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays
	Optical Drive	HP DL360 SL 12.7mm SATA DVD-RW
	Power Supply	(2) 460W Hot Plug Power Supply
	Fans	4fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
	Management	Insight Control

HP DL360 G7 X5675 US Svr/S-Buy 640013-005	Processor(s)	(2) Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W)
	Memory	8GB (2x 4GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4 x 1Gb Ports)
	Storage Controller	HP Smart Array P410i/512MB FBWC Memory Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays
	Optical Drive	HP DL360 SL 12.7mm SATA DVD-RW
	Power Supply	(2) 460W Hot Plug Power Supply
	Fans	4fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
	Management	Insight Control

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.
NOTE: Configure-to-order (CTO) servers must start with a CTO Chassis.
NOTE: FIO indicates that this option is only available as a factory installable option.

Step 1: Base Configuration (choose one of the following configurable models)

HP Models	HP ProLiant DL360 G7 Configure-to-order Server	579237-B21
	HP ProLiant DL360 G7 Performance Configure-to-order Server NOTE: This Model available with Dual X5690 or X5687 130Watt processors only.	641749-B21
	Factory Integrated Model ships with: Two HP NC382i Dual Port Multifunction Gigabit Server Adapter (4x1Gb Ports) HP Smart Array P410i/Zero Memory Controller HP Integrated Lights-Out 3 (iLO 3) embedded 2 PCIe 2.0 Slots - 1 full-length, full-height x16 and 1 low-profile x8. 4 bays for Hot-Plug SAS/SATA Drives(Factory Option for up to 8) 4 USB ports(1-front,1-internal, 2-rear) 1 Internal Secure Digital(SD) slot 3 fan modules; fan redundancy standard 1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep	

Step 2: Choose Required Options (only one of the following from each list unless otherwise noted)

HP Processors	Six-Core Processors	
	HP DL360 G7 Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W) FIO 2-processor Kit NOTE: This option requires P/N: 641749-B21 selected in Step 1 above.	644131-L21
	HP DL360 G7 Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W) FIO Processor Kit	633781-L21
	HP DL360 G7 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) FIO Processor Kit	588062-L21
	HP DL360 G7 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) FIO Processor Kit	588064-L21
	HP DL360 G7 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) FIO Processor Kit	588066-L21
	HP DL360 G7 Intel® Xeon® L5640 (2.26GHz/6-core/12MB/60W) FIO Processor Kit	588078-L21
	HP DL360 G7 Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W) FIO Processor Kit	633785-L21
	HP DL360 G7 Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W) FIO Processor Kit	633787-L21
	Quad-Core Processors	
	HP DL360 G7 Intel® Xeon® X5687 (3.60GHz/4-core/12MB/130W) FIO 2-processor Kit NOTE: This option requires P/N: 641749-B21 selected in Step 1 above.	644130-L21

	HP DL360 G7 Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W) FIO Processor Kit	633783-L21
	HP DL360G7 Intel® Xeon® X5667 (3.06GHz/4-core/12MB/95W) FIO Processor Kit	621552-L21
	HP DL360 G7 Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W) FIO Processor Kit	588068-L21
	HP DL360 G7 Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W) FIO Processor Kit	588070-L21
	HP DL360 G7 Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W) FIO Processor Kit	588072-L21
	HP DL360 G7 Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W) FIO Processor Kit	633789-L21
	HP DL360 G7 Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W) FIO Processor Kit	588074-L21
	HP DL360 G7 Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W) FIO Processor Kit	588080-L21
	HP DL360 G7 Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W) FIO Processor Kit	633791-L21
	Dual-Core Processors	
	HP DL360 G7 Intel® Xeon® E5503 (2.0GHz/2-core/4MB/80W) FIO Processor Kit	588076-L21
	NOTE: Up to 2 processors supported. Performance Model configurations include two processors. NOTE: HT indicates that the processor model supports Intel® /Hyper-Threading Technology NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4,3,2 and 1 cores active. NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed. NOTE: For the Intel 5500 Series, the letter preceding the model number indicated the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.	
HP Memory	Registered DIMMs (RDIMMs)	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604504-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604506-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21

	HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit	627812-B21
	HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit	627814-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit	619488-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator. NOTE: For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient NOTE: PC3L is a low voltage memory.	
HP Power Supplies	NOTE: Most DL360 Series Servers operate within the 460Watt range of the base model Common Slot Power Supply. However, prior to making a power supply selection it is highly recommended that the HP Power Advisor is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor. Standard Power Supplies only come with "PreConfigured Models" shown previously and are defined in those lists of options.	
	HP 460W Common Slot Gold Hot Plug Power Supply Kit NOTE: Standard on most models.	503296-B21
	HP 460W Common Slot Platinum Hot Plug Power Supply Kit	593188-B21
	HP 750W Common Slot Gold Hot Plug Power Supply Kit	512327-B21
	HP 750W Common Slot Platinum Hot Plug Power Supply Kit NOTE: Standard on Efficiency Model Server.	593831-B21
	HP 1200W Common Slot Silver Hot Plug Power Supply Kit	500172-B21
	HP 1200W Common Slot Silver Hot Plug Power Supply Kit NOTE: DC power supplies contain a -48V DC power cord designed for in rack DC power rectifiers.	437573-B21
	NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.	

Step 3: Choose Additional Factory Integratable Options

HP Storage Controllers	NOTE: For additional Cache Memory Options for the standard integrated Smart Array (P410i) see HP Storage Controllers section in Step 4: below. NOTE: For additional Storage Controller Options select from these options. See Additional Options in next section below for more details.	
	HP Smart Array P212/256 BBWC 1-ports Int/1-ports Ext PCIe x8 FIO SAS Controller	491191-B21
	HP Smart Array P411/256 BBWC 2-ports Ext PCIe x8 FIO SAS Controller	491193-B21
	NOTE: For more information on optional controllers. http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html	
HP Performance Packs	The HP ProLiant DL360 G7 performance packs are necessary to configure a HP ProLiant DL360 G7 Performance Model. HP ProLiant DL360 G7 Performance model includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value. The performance pack includes a 2nd X5650 or X5675 processor, redundant 460w power supplies, 1G of FBWC, a second HDD backplane for full 8 SFF/SSD hard drive support and Insight Control license.	
	HP DL360G7 X5650 HPM FIO Perf Pack	593829-B21
	HP DL360G7 X5675 HPM FIO Perf Pack	636366-B21
HP Insight Software	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License	582765-B21
	HP Insight Control for Linux including 1yr 24x7 Support ML/DL Bundle 1 Server FIO License	TC203A

Step 4: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Core Options" and "Additional Options" sections below.

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

HP Unique Options	HP DL360 G6/G7 Small Form Factor Hard Drive Backplane Kit NOTE: Integrated Optical/DVD cannot be used with this option. Optional External USB CD/DVD Drive available.	516966-B21
	HP DL360G6 Slimline 12.7mm SATA DVD Optical Drive	532066-B21
	HP DL360G6 Slimline 12.7mm SATA DVD-RW Optical Drive NOTE: Integrated DVD/Optical drive option is supported on 4 Hard drive models only.	532068-B21
	HP DL360 G6 PCI-X Riser Kit NOTE: For PCI-X Card support only. NOTE: The PCI-X Riser option is available to convert the full-length, full-height PCI-Express slot to PCI-X slot for PCI-X cards only.	518824-B21
HP Processor	Six-Core Processors	
	HP DL360 G7 Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W) Processor Kit	633781-B21
	HP DL360 G7 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) Processor Kit	588062-B21
	HP DL360 G7 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) Processor Kit	588064-B21
	HP DL360 G7 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) Processor Kit	588066-B21
	HP DL360 G7 Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W) Processor Kit	633785-B21
	HP DL360 G7 Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W) Processor Kit	633787-B21
	HP DL360 G7 Intel® Xeon® L5640 (2.26GHz/6-core/12MB/60W) Processor Kit	588078-B21
	Quad-Core Processors	
	HP DL360 G7 Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W) Processor Kit	633783-B21
	HP DL360 G7 Intel® Xeon® X5667 (3.06GHz/4-core/12MB/95W) Processor Kit	621552-B21
	HP DL360 G7 Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W) Processor Kit	588068-B21
	HP DL360 G7 Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W) Processor Kit	588070-B21
	HP DL360 G7 Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W) Processor Kit	588072-B21
	HP DL360 G7 Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W) Processor Kit	588080-B21
	HP DL360 G7 Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W) Processor Kit	633789-B21
	HP DL360 G7 Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W) Processor Kit	588074-B21
	HP DL360 G7 Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W) Processor Kit	633791-B21
	Dual-Core Processors	
	HP DL360 G7 Intel® Xeon® E5503 (2.0GHz/2-core/4MB/80W) Processor Kit	588076-B21
	NOTE: Up to 2 processors supported. Performance Model configurations include two processors. NOTE: HT indicates that the processor model supports Intel® /Hyper-Threading Technology NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 6,5,4,3,2 and 1 cores active. NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed. NOTE: For the Intel 5500 Series, the letter preceding the model number indicated the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E"	

denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.

HP Memory	**Registered DIMMs (RDIMMs)**	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP S-Buy 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-S21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP S-Buy 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-S21
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP S-Buy 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-S21
	HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604504-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP S-Buy 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-S21
	HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604506-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
	HP S-Buy 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit 500666-S21	500666-S21
	HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit	627812-B21
	HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit	627814-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	HP S-Buy 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-S21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP S-Buy 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-S21

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	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
	HP S-Buy 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-S21
	HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit	619488-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator. NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient. NOTE: PC3L is a low voltage memory.	
HP Drive Cage Options	HP DL360 G6/G7 Small Form Factor Hard Drive Backplane Kit	516966-B21
	NOTE: For 4 addition HD Bays, slots 5-8. This option will work on both DL360 G6 and G7 servers. NOTE: Optical/DVD cannot be used with this option.	
HP Optical Drives	HP DL360G6 Slimline 12.7mm SATA DVD Optical Drive	532066-B21
	HP DL360G6 Slimline 12.7mm SATA DVD-RW Optical Drive	532068-B21
	NOTE: Integrated DVD/Optical drive option is supported on 4 Hard drive models only.	
HP Hard Drives	NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components. NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.	
	SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives	
	HP 900GB 6G SAS 10K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive	619291-B21
	HP 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581286-B21
	HP S-Buy 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581286-S21
	HP 450GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581284-B21
	HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507127-B21
	HP S-Buy 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507127-S21
	HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512547-B21
	HP S-Buy 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512547-S21

HP 146GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507125-B21
HP S-Buy 146GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507125-S21
HP 72GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512545-B21
SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive	605835-B21
HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507610-B21
NOTE: SAS Enterprise drives have a 3 year warranty. Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12244_na/12244_na.html	
SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
HP 1TB 3G SATA 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive	625609-B21
HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	507750-B21
HP S-Buy 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	507750-S21
NOTE: SATA drives have a 1 year warranty. Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13021_na/13021_na.html	
SATA Hot Plug Midline (MDL) Solid State Drives	
HP 60GB 3G SATA SFF (2.5-inch) Midline 1yr Warranty Solid State Drive	572071-B21
HP 120GB 3G SATA SFF (2.5-inch) Midline 1yr Warranty Solid State Drive	572073-B21
RECOMMENDATION: For best performance of SSD drives it is recommended that any Smart Array Controller use a max of 4 drives. For this product a second Smart Array option can be used for the second set of 4 SSD drives. NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13415_na/13415_na.html	
6G SAS Hot Plug Enterprise Performance Solid State Drives	
HP 400GB 6G SAS SLC SFF (2.5-inch) Enterprise Performance 3yr Warranty Solid State Drive	632494-B21
HP 200GB 6G SAS SLC SFF (2.5-inch) Enterprise Performance 3yr Warranty Solid State Drive	632492-B21
6G SAS Hot Plug Enterprise Mainstream Solid State Drives	
HP 800GB 6G SAS MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	632506-B21
HP 400GB 6G SAS MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	632504-B21
HP 200GB 6G SAS MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	632502-B21
NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/14038_na/14038_na.html	

Core Options

HP Networking	Gigabit Ethernet Adapters	
	HP NC112T PCI Express Gigabit Server Adapter	503746-B21
	HP NC360T PCI-E Dual Port Gigabit Server Adapter	412648-B21
	HP NC365T 4-port Ethernet Server Adapter	593722-B21
	HP NC373F PCI-E Multifunction 1000SX Gigabit Svr Adapter	394793-B21
	HP NC373T PCI-E Multifunction Gigabit Server Adapter	394791-B21
	HP NC375T PCI Express Quad Port Gigabit Server Adapter	538696-B21
	HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21
	10 Gigabit Ethernet Adapters NOTE: No more than two 10GbE I/O devices are supported in a single ProLiant server. NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each adapter. NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.	
	HP NC522SFP Dual Port 10GbE Gigabit Server Adapter	468332-B21
	HP NC550SFP Dual Port 10GbE Server Adapter	581201-B21
	HP NC523SFP 10Gb 2-port Server Adapter	593717-B21
	HP NC552SFP 10Gb 2-port Ethernet Server Adapter	614203-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs	
	HP 10 GbE PCI-e G2 Dual Port Network Interface Card	516937-B21
HP InfiniBand	QLogic InfiniBand 4X QDR PCI-E G2 Dual Port HCA	583211-B21
	HP InfiniBand 4X QDR ConnectX-2 PCIe G2 Dual Port HCA	592520-B21
	HP InfiniBand 4X DDR ConnectX-2 PCIe G2 Dual Port HCA	592521-B21
	HP InfiniBand 4X DDR PCI-E 0 Memory Dual Port HCA	483513-B21
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13078_na/13078_na.html.	
HP I/O Expansion Options	HP DL360 G6 PCI-X Riser Kit NOTE: To convert full-length, full-height PCI-Express slot to PCI-X slot for PCI-X cards only.	518824-B21

Core Options

HP Power Supplies	NOTE: Prior to making a power supply selection it is highly recommended that the HP Power Advisor is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor.	
	HP 460W Common Slot Gold Hot Plug Power Supply Kit NOTE: Standard on most models.	503296-B21
	HP 460W Common Slot Platinum Hot Plug Power Supply Kit	593188-B21
	HP 750W Common Slot Gold Hot Plug Power Supply Kit	512327-B21
	HP 750W Common Slot Platinum Hot Plug Power Supply Kit NOTE: Standard on Efficiency Model Server.	593831-B21
	HP 1200W Common Slot Silver Hot Plug Power Supply Kit	500172-B21
	HP 1200W Common Slot Silver Hot Plug Power Supply Kit NOTE: DC power supplies contain a -48V DC power cord designed for in rack DC power rectifiers.	437573-B21
	NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.	
HP Cooling Options	HP DL360G6 PCI Thermal Power Cable Kit NOTE: Supports 3rd Party PCI Video Graphics cards.	519254-B21

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

HP Insight Software	HP Insight Control	
	HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License	T9074BAE
	HP Insight Control Smart Buy including 1yr 24x7 Technical Support and Updates Electronic License	T9074ASE
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Electronic License	TC278AAE
	HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License	452148-B22
	HP Insight Control Smart Buy including 1yr 24x7 Technical Support and Updates Single Server License	452148-S22
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Tracking License	TC275A
	HP Insight Software Media Kit NOTE: Insight Software DVD media without licenses. Contains HP Systems Insight Manager, HP Insight Control, HP Insight Dynamics, HP Insight Control for Microsoft System Center, and Virtual Connect Enterprise Manager software. Uses an integrated installer to perform quick and accurate software installation and updates. NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key. NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service. NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates. NOTE: For additional license options please see the Insight Control QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_na/12631_na.html	436222-B21
	HP Insight Control for Linux	
	HP Insight Control for Linux including 1yr 24x7 Support Electronic License	TC213AAE
	HP Insight Control Smart Buy for Linux including 1yr 24x7 Support Electronic License	TC213ASE
	HP Insight Control for Linux including 1yr 24x7 Support Single Server License	TC209A
	HP Insight Control for Linux Media Kit NOTE: Media pack DVD contains the ISO image for HP Insight Control for Linux, HP Systems Insight Manager, HP Insight Control power management, HP Insight Control virtual machine management, and an integrated installer. Servers must be acquired separately. NOTE: Licenses ship without media. The Media Kit for Insight Control for Linux can be ordered separately, or can be downloaded at: http://www.hp.com/go/ic-linux (click on Download button). NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys. NOTE: For additional License Kits, including electronic licensing options, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/13019_na/13019_na.html	TC208A

Additional Options

HP Integrated Lights-Out (iLO) Advanced

HP iLO Advanced including 1yr 24x7 Technical Support and Updates Electronic License — TA850AAE

HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License — 512485-B21

NOTE: This license allows 1 server to be deployed and managed via HP iLO Advanced. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service

NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.

NOTE: For additional license kits, including electronic delivery options, please see the QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/12362_na/12362_na.html

HP Insight Control Server Deployment

HP Insight Control Server Deployment including 1yr 24x7 Support Electronic License — T9082AAE

HP Insight Control Server Deployment including 1yr 24x7 Support Single Server License — 452151-B21

NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.

NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service.

NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates.

NOTE: For additional license options please see the Insight Control QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/12631_na/12631_na.html

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High Performance Clusters

HP Cluster Management Utility

HP Cluster Management Utility Compute Node Flexible License — QL803A

NOTE: This part number can be used to purchase one certificate for multiple licenses with a single activation key. Each license is for one node (server). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key.

HP Cluster Management Utility License and Media — 433257-B21

NOTE: Order a minimum of one license per cluster to purchase media including software and documentation, which will be delivered to the customer, and also licenses CMU management. No license key is delivered or required.

NOTE: For additional license kits please see the QuickSpecs at:
http://h18004.www1.hp.com/products/quickspecs/12612_na/12612_na.html

HP HPC Linux Value Pack

Additional Options

	HP High Performance Computing Linux Value Pack 1 Processor Flexible License NOTE: This part number can be used to purchase one certificate for multiple licenses with a single activation key. Each license is for one socket (a.k.a. processor). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key.	TC293B
	HP High Performance Computing Linux Value Pack Media Kit NOTE: This part number can be used to purchase media including software and documentation, which will be delivered to the customer.	TC294A
	NOTE: For additional license kits please see the QuickSpecs at: http://h18004.www1.hp.com/products/quickspecs/13485_na/13485_na.html	
HP I/O Accelerator Options	HP 160GB Single Level Cell PCIe ioDrive for ProLiant Servers NOTE: A low-profile PCI bracket is included for use in low-profile slots.	600278-B21
	HP 320GB Multi Level Cell PCIe ioDrive for ProLiant Servers NOTE: A low-profile PCI bracket is included for use in low-profile slots.	600279-B21
	HP 320GB Single Level Cell PCIe ioDrive Duo for ProLiant Servers	600281-B21
	HP 640GB Multi Level Cell PCIe ioDrive Duo for ProLiant Servers	600282-B21
	HP 1.28TB Multi Level Cell PCIe IO Accelerator	641027-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13587_na/13587_na.html	
HP Security - TPM	HP Trusted Platform Module Option NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: www.hp.com/go/TPM. NOTE: ProLiant OS pre-installed units will come with the partition required for TPM deployment. NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.	488069-B21
HP Storage Controllers	NOTE: The DL360 G7 Server comes standard with an integrated P410i Smart Array Controller designed to mange up to 8 SFF hard drives from HP. For additional capabilities and capacities HP offers additional Smart Arrays. (BBWC=Battery Backed Write Cache and FBWC=Flash Back Write Cache)	
	SAS Controllers	
	Smart Array P212 Controller	
	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462828-B21

HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462834-B21
Smart Array P411 Controller	
HP Smart Array P411/256 2-ports Ext PCIe x8 SAS Controller	462830-B21
HP Smart Array P411/512 BBWC 2-ports Ext PCIe x8 SAS Controller	462832-B21
HP Smart Array P411/512 FBWC 2-ports Ext PCIe x8 SAS Controller	578229-B21
HP Smart Array P411/1G FBWC 2-ports Ext PCIe x8 SAS Controller	572531-B21
Smart Array P812 Controller	
HP Smart Array P812/1G FBWC 2-ports Int/4-ports Ext PCIe x8 SAS Controller NOTE: The HP Smart Array P812/1G Flash Backed Cache Controller has the ability to support 8 internal drives on the DL360 G7 as well as external storage solutions. For use with the internal 8 drives the Mini-SAS to Mini-SAS, 25.50" & 28.00" option kit (PN: 496013-B21) is required.	487204-B21
Optional Upgrades	
NOTE: For Smart Array P410i Controller and Smart Array P212 Controller. Not available for factory integration.	
HP 256MB P-series Cache Upgrade NOTE: Supported on HP Smart Array P212 Controller and HP Smart Array P410i Controller.	462968-B21
HP 512MB P-Series Battery Backed Write Cache Upgrade	462967-B21
HP 512MB Flash Backed Write Cache NOTE: Supported on the Smart Array P410i Controller only.	534916-B21
HP 1GB Flash Backed Cache NOTE: Supported on the Smart Array P410i Controller only.	534562-B21
HP 650 mAh P-Series Battery NOTE: To enable BBWC on the 256MB cache kits.	462969-B21
HP Mini SAS to Mini SAS 28in Cable Assembly	496013-B21
HP Chipset SATA Cable Kit NOTE: This cable allows for connection of Chipset SATA to 1 SATA HD in the drive cage. This solution allows for disabling the embedded storage controller. Qty of 1 HD blanks may need to be ordered/installed when using this solution (503771-B21) to ensure all bays are populated with HDs or blanks. There is no support for optical media. There is no support for HD LED or thermal management when this solution is deployed. Only supported on non Hot Plug SFF Hard Drives configurations. Hot Plug is not supported. Loss of HD support for all drives bays except for the 1 deployed in this configuration. VMWare (ESX3.5/i) is not supported in this configuration.	627121-B21
HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Single Server License NOTE: This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customers will receive a license entitlement certificate via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HP Software Technical Support Services.	516471-B21
NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13203_na/13203_na.html (Smart Array P212 Controller) http://h18000.www1.hp.com/products/quickspecs/13202_na/13202_na.html	

	(Smart Array P411 Controller) http://h18000.www1.hp.com/products/quickspecs/13558_na/13558_na.html (Smart Array P812 Controller) http://h18000.www1.hp.com/products/quickspecs/13200_na/13200_na.html (Smart Array Advanced Pack)	
	SAS HBA	
	HP SC08Ge 2-ports Ext PCIe x8 SAS Host Bus Adapter	488765-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18004.www1.hp.com/products/quickspecs/13082_na/13082_na.html (SC08Ge HBA)	
	HP Modular Smart Array SC08e 2-ports Ext PCIe x8 SAS Host Bus Adapter	614988-B21
	NOTE: This is a 2 x4 External Port HBA NOTE: This is only approved for the HP Storage Works P2000 G3 SAS Modular Smart Array.	
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18004.www1.hp.com/products/quickspecs/13651_na/13651_na.html (SC08e 6Gb HBA)	
	SCSI HBA	
	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter	412911-B21
	NOTE: Recommended HBA for SCSI tape drive connect.	
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12566_na/12566_na.html (SC11Xe HBA)	
HP Power Cords	NOTE: The HP ProLiant DL360 G7 ships with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). For specific power cords purchase from the following.	
	HP 1.83m 10A C13 Power Cord	AF556A
	HP 2m 10A C13-C14 Redundant Jumper Cord	AF573A
HP Backup & Recovery Software	HP Data Protector Express	
	HP Data Protector Express V5.0 for 1 Server E-LTU	TC330AAE
	HP Data Protector Express V5.0 for 3 Servers E-LTU	TC331AAE
	HP Data Protector Express V5.0 for 10 Servers E-LTU	TC332AAE
	HP Basic Upgrade to Data Protector Express V5 for 1 Server E-LTU	TC333AAE
	NOTE: One of these Data Protector Express base products is required. To see available options: http://www.hp.com/go/dataprotectorexpress	

Additional Options

Tape Backup	NOTE: For the complete range of tape drives, autoloaders, libraries and media see: http://www.hp.com/go/tape. For hardware and software compatibility of HP tape backup products see: http://www.hp.com/go/connect.	
	HP StorageWorks DAT 320 USB in 1U Rack-mount Kit	AP835B
	HP StorageWorks DAT 320 SAS Internal Tape Drive NOTE: For installation into 1U SAS rack kit (AE459B) or 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended.	AJ830A
	HP StorageWorks Ultrium 920 SAS Internal Tape Drive NOTE: For installation into 1U SAS rack kit (AE459B) or 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended.	EH847A
	HP StorageWorks LTO-4 Ultrium 1760 SAS (1) in 1U Rack-mount Kit NOTE: Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended.	EH946B
	HP StorageWorks LTO-5 Ultrium 3000 SAS Tape Drive in 1U Rackmount NOTE: Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended.	EJ014A
	HP StorageWorks 1/8 G2 LTO-5 Ultrium 3000 SAS Tape Autoloader NOTE: Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	BL536A
	HP StorageWorks MSL2024 1 LTO-5 Ultrium 3000 SAS Tape Library NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	BL537A
	HP StorageWorks MSL4048 2 LTO-5 Ultrium 3000 SAS Tape Library NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	BL538A
Disk Backup	NOTE: For the complete range of D2D Backup Systems see: http://www.hp.com/go/d2d. For the complete range of RDX drives and media see: http://www.hp.com/go/rdx. For hardware and software compatibility of HP disk backup products see: http://www.hp.com/go/connect.	
	HP D2D Backup Systems with Backup Data Deduplication	
	HP StorageWorks D2D2502i Backup System NOTE: 1.5TB of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	EJ001B
	HP StorageWorks D2D2504i Backup System NOTE: 3.0TB of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	EJ002B
	HP StorageWorks D2D4004i Backup System NOTE: 3.0TB (expandable to 7.5TB) of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	EH938A

Additional Options

	HP StorageWorks D2D4112 Backup System NOTE: 9.0TB (expandable to 18.0TB) of useable network disk backup capacity. Fibre Channel SAN connected appliance. Direct server attach is not supported, requires connection via SAN fabric. See http://www.hp.com/go/connect for supported Fibre Channel Host Bus Adapters.	EH993B
	HP RDX Removable Disk Backup Systems USB	
	HP StorageWorks RDX320 Internal Removable Disk Backup System NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 320GB of disk capacity per data cartridge.	AJ767A
	HP StorageWorks RDX500 Internal Removable Disk Backup System NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 500GB of disk capacity per data cartridge.	AJ934A
	HP StorageWorks RDX1000 Internal Removable Disk Backup System NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 1 TB of disk capacity per data cartridge.	BV847A
HP Storage Options	**Storage Fibre Channel HBA**	
	NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see: http://h18006.www1.hp.com/storage/saninfrastructure/hba.html	
	Brocade Fibre Channel HBAs	
	HP StorageWorks 81B PCIe 8Gb Fibre Channel Single Port Host Bus Adapter	AP769A
	HP StorageWorks 82B PCIe 8Gb Fibre Channel Dual Port Host Bus Adapter	AP770A
	HP StorageWorks 41B PCIe 4Gb Fibre Channel Single Port Host Bus Adapter	AP767A
	HP StorageWorks 42B PCIe 4Gb Fibre Channel Dual Port Host Bus Adapter	AP768A
	Emulex Fibre Channel HBAs	
	HP StorageWorks 81E 8Gb Single Port PCI-e Fibre Channel Host Bus Adapter	AJ762A
	HP StorageWorks 82E 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter	AJ763A
	HP StorageWorks FC2142SR 4Gb PCIe Host Bus Adapter	A8002A
	HP StorageWorks FC2242SR 4Gb PCIe DC Host Bus Adapter	A8003A
	QLogic Fibre Channel HBAs	
	HP StorageWorks 81Q PCI-e Fibre Channel Host Bus Adapter	AK344A
	HP StorageWorks 82Q 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter	AJ764A
	HP StorageWorks FC1142SR 4Gb PCIe Host Bus Adapter	AE311A
	HP StorageWorks FC1242SR 4Gb PCIe DC Host Bus Adapter	AE312A
	Storage SCSI HBA	
	HP StorageWorks U320e SCSI Dual Channel Host Bus Adapter NOTE: Recommended HBA for MSL SCSI Tape Library connect.	AH627A
	Converged Network Adapter	
	HP StorageWorks CN1000E Dual Port Converged Network Adapter	AW520A
	HP CN1000Q Dual Port Converged Network Adapter	BS668A

HP Disk Storage Systems	MSA SAN Storage Arrays	
	HP StorageWorks MSA60 Array	418408-B21
	NOTE: Supports 12 SFF drives, and SAS 3 Gb/s and SATA 1.5 Gb/s. NOTE: Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12627_na/12627_na.html	
	HP StorageWorks MSA70 Array	418800-B21
	NOTE: Supports 25 SFF drives, and SAS 3 Gb/s and SATA 1.5 Gb/s. NOTE: Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12652_na/12652_na.html	
	Disk Enclosures	
	HP StorageWorks D2600 Disk Enclosure	AJ940A
	HP StorageWorks D2700 Disk Enclosure	AJ941A
	NOTE: Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/13404_na/13404_na.html	
HP Uninterruptible Power Systems	HP Rack-mountable UPS	
	HP R1500 G2 UPS	
	HP R1500 G2 1440VA Low Voltage 1U Rackmount Uninterruptible Power System	AF419A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12507_na/12507_na.html	
	HP R1500 G3 Uninterruptible Power Supply (UPS)	
	HP R1.5kVA G3 1U Uninterruptible Power System	AF469A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/14059_na/14059_na.html	
	HP Rack-Mountable R5500 UPS	
	HP R5500 5000kVA 3U Rackmount Uninterruptible Power System	AF426A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13129_na/13129_na.html	
	HP R/T3000 Uninterruptible Power System (UPS)	
	HP Smart Buy R/T3000 3300VA Low Voltage 2U Rackmount Uninterruptible Power System	AF452S
	HP R/T3000 3300VA High Voltage 2U Rackmount Uninterruptible Power System	AF453A
	HP Smart Buy R/T3000 3300VA High Voltage 2U Rackmount Uninterruptible Power System	AF453S
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13417_na/13417_na.html	
	HP R/T3000 G2 Uninterruptible Power System (UPS)	
	HP R/T3000 G2 2U L530 Low Voltage Uninterruptible Power System	AF466A
	HP R/T3000 G2 2U L620 High Voltage Uninterruptible Power System	AF467A

NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/14058_na/14058_na.html

NOTE: For additional information on HP Uninterruptible Power Systems please go to: www.hp.com/servers/rackups.

NOTE: For additional information on sizing your server, please reference: http://www.upssizer.com.

NOTE: Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: www.hp.com/products/powercords.

HP Power Distribution Units

Monitored PDUs

HP Monitored Power Distribution Unit: Full Rack Version

HP Single Input 3 Phase 24A Monitored Power Distribution Unit	AF504A
HP Single Input 1 Phase 40A Monitored Power Distribution Unit	AF506A

HP Monitored Power Distribution Unit: Half Rack Version

HP Single Input 1 Phase 24A Monitored Power Distribution Unit	AF914A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12118_na/12118_na.html

Modular PDUs 1U/0U

NOTE: 1U/0U mounting brackets shipped with the unit (optimized for 10000 G2 and 9000 series racks).

HP 16A High Voltage Modular Power Distribution Unit	252663-B24
HP 24A High Voltage Modular Power Distribution Unit	252663-D72
HP 40A High Voltage Modular Power Distribution Unit	252663-D73

NOTE: For additional information on HP Power Distribution Units including accessories please go to: www.hp.com/go/pdu.

NOTE: Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: www.hp.com/products/powercords.

HP Intelligent Power Distribution Units (iPDU)

iPDU Core Units

HP 24A Core Only Intelligent Modular Power Distribution Unit	AF520A
HP 40A Core Only Intelligent Modular Power Distribution Unit	AF521A
HP 24A 3 Phase Core Only Intelligent Modular Power Distribution Unit	AF522A
HP 48A 3 Phase Core Only Intelligent Modular Power Distribution Unit	AF523A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13650_na/13650_na.html

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Additional Options

HP Rack Series	HP Rack 10000 G2 Series (Carbon/Graphite Metallic)	
	HP 10642 G2 Pallet Universal Rack	AF001A
	HP 10642 G2 Shock Universal Rack	AF002A
	HP 10642 G2 1200mm deep Shock Rack	AF092A
	HP 10647 G2 1200mm deep Shock Rack	AF094A
	NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed.	
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12402_na/12402_na.html	
	NOTE: For additional information regarding Rack Cabinets and Telco Rack support, please see the following URL: http://www.hp.com/go/rackandpower.	
	NOTE: The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 G2 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.	
	CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment: Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 830 square inches (5,350 sq cm) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation). Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm).	
	CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.	
	NOTE: Quick deploy rail system provides tool-free support for racks with square or round mounting holes (including Compaq/HP 7000, 9000, 10000 G2 and HP series), with an adjustment range of 24" - 36". The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management.	
HP Rack Options	HP USB Keyboard and Mouse	
	HP USB BFR with PVC Free Keyboard/Mouse Kit	631341-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13972_na/13972_na.html	
	HP TFT7600 G2 KVM Console Rackmount Keyboard Monitor	
	HP TFT7600 G2 KVM Console Rackmount Keyboard Monitor	AZ870A
	HP TFT7600 G2 KVM Console Rackmount Keyboard TAA Monitor	AZ885A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13731_na/13731_na.html	
	HP Server Console Switches	
	HP Server Console 0x2x8 Port Analog Switch	AF616A
	HP Server Console 0x2x16 Port Analog Switch	AF617A

	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/11834_na/11834_na.html	
	HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software	AF618A
	HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software	AF619A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13475_na/13475_na.html	
	HP IP Console Switch G2 with Virtual Media & CAC	
	HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software	AF620A
	HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software	AF621A
	HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software	AF622A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13474_na/13474_na.html	
	Rack Kit	
	HP DL360G4 1U Cable Management Arm	365403-B21
HP USB and SD Options	HP USB 04 Standard Keyboard	DT528A#ABA
	HP 4GB Secure Digital High Capacity Flash Media Kit	580387-B21
	NOTE: Blank SD media device is supported for use with VMware and Citrix. SD media must be installed in the internal slot of the ProLiant server. Learn more at: http://www.hp.com/go/proliantvirtualization.	
HP Care Pack Services	Hardware Services 4-Hour On-site Service	
	HP 3 year 4 hour 13x5 ProLiant DL36x Hardware Support	U4496E
	HP 3 year 4 hour 24x7 ProLiant DL36x Hardware Support	U4497E
	Hardware Services 6-Hour Call to Repair On-site Service	
	HP 3 year 6 hour 24x7 Call to Repair ProLiant DL36x Hardware Support	U4498E
	Hardware Services 24-Hour Call to Repair On-site Service	
	HP 3 year 24 hour 24x7 Call to Repair ProLiant DL36x Hardware Support	UP711E
	HP 4 year 24 hour 24x7 Call to Repair ProLiant DL36x Hardware Support	UP712E
	HP 5 year 24 hour 24x7 Call to Repair ProLiant DL36x Hardware Support	UP713E
	Installation & Start-up Services	
	HP Install ProLiant DL36x Service	U4506E
	HP Startup ProLiant DL36x Service	U4507E
	Support Plus 24	
	HP 3 year Support Plus 24 Microsoft ProLiant DL36x Service	U4509E
	HP 3 year Support Plus 24 SuSE ProLiant DL36x Service	U6310E
	NOTE: For more information, customer/resellers can contact: http://www.hp.com/services/carepack.	

Additional Options

Smart Buy Care Pack Services	S-Buy 4-Hour Onsite Response, 13-Hour x 5-Day Coverage, 3 years	UE891E
	S-Buy 4-Hour Onsite Response, 24-Hour x 7-Day Coverage, 3 years	UE892E
	S-Buy 6-Hour Call to Repair, 24-Hour x 7-Day Coverage, 3 years	UM360E
	NOTE: Smart Buy Care Packs can only be attached to Smart Buy SKUs	

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".

DDR3 memory population guidelines

For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator

Some DIMM installation guidelines are summarized below:

- For servers with eighteen (18) memory slots:
  - There are three (3) channels per processor; six (6) channels per server
  - There are three (3) DIMM slots for each memory channel; eighteen (18) total slots
  - Memory channel 1 consists of the three (3) DIMMs that are closest to the processor
  - Memory channel 3 consists of the three (3) DIMMs that are furthest from the processor
- DIMM slots that are white should be populated first
- Do not mix Unbuffered memory (UDIMMs) with Registered memory (RDIMMs)
- Do not install DIMMs if the corresponding processor is not installed
- If only one processor is installed in a 2CPU system, only half of the DIMM slots are available
- To maximize performance, balance the total memory capacity between all installed processors
- It is not required, but it is recommended to load the channels similarly if possible
- You can only have up to eight (8) ranks installed per channel
- You can only install two quad-rank DIMMs per channel
- You can only install two UDIMMs per channel; if available, the third slot in the channel must remain empty
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel
- Heaviest load (DIMM with most ranks) within a channel goes furthest from the chipset
- For memory mirroring mode, channel 3 must be unpopulated. Channels 1 and 2 are populated identically
- For lock-step mode, channel 3 must be unpopulated. DIMMs in channels 1 and 2 will be installed in pairs. The paired slots will be 1,4; 2,5; 3;6 on a 3DPC system or 1,4; 2,5; on a 2DPC system
- Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors
- If mixing DIMM voltage is a requirement, please note that the DIMMs will run at 1.5V since all 1.35V are capable of supporting 1.5V operations

DIMM slot/capacity/populated speed table												
DIMM Type	Registered DIMMS (RDIMMs)									Unbuffered with ECC DIMMs (UDIMMs)		
DIMM Rank	Single Rank (1R)	Dual Rank (2R)					Quad Rank (4R)			Single Rank (1R)	Dual Rank (2R)	
DIMM Capacity	4GB	2GB	4GB	8GB	8GB	16GB	4GB	16GB	32GB	1GB	2GB	4GB
DIMM Native Speed (MHz)	1333	1333	1333	1066	1333	1333	1066	1066	1066	1333	1333	1333
	SLOTS THAT CAN BE POPULATED											
18 slot servers	18	18	18	18	18	18	12	12	12	12	12	12
	MAXIMUM CAPACITY (GB)											
	72	36	72	144	144	288	48	192	384	12	24	48
	POPULATED DIMM SPEED (MHz)											

Memory

1 DIMM Per Channel	1333	1333	1333	1066	1333	1333	1066	1066	1066	1333	1333	1333
2 DIMM Per Channel	1333*	1333*	1333*	1066	1333*	1066/ 1033*	800	800	800	1333	1333	1333*
3 DIMM Per Channel	800	800	800	800	800	800**	n/a	n/a	n/a	n/a	n/a	n/a

*2DPC: LV runs at 1066, Std voltage runs at 1333
**3DPC: LV/Std voltage runs at 800

NOTES:

- Mixing DIMM speeds is allowed, but the system processor speed rules always override the DIMM capabilities
- If you do mix DIMM speeds, the memory bus will default to the minimum clock rate of all DIMMs in the system - even if the slower DIMM is on the other processor
- If you install 1x 1066MHz DIMM in channel 1 and 1x 1333MHz DIMM in channel 2, you still run at 1066MHz
- If you install 1x 1066MHz DIMM in channel 1 and 5x 1333MHz DIMMs with 1 DIMM Per Channel (DPC) in each of the other channels, you run at 1066MHz
- If you install 3DPC in one channel (if applicable) and 1DPC in all other channels, you run at 800MHz
- References to the above MHz speeds are for the various speeds of DDR3 DIMMs; 1333 refers to DDR3-1333, etc.

DIMM slot and configuration diagrams

Basic memory slot & population diagram

- Population order; start with "A" first, "B" second, "C" third, etc.

18 DIMM SLOTS (9 per CPU node)					
	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G	1	G	Chnl 1
	2	D	2	D	
	3	A	3	A	
Chnl 2	4	H	4	H	Chnl 2
	5	E	5	E	
	6	B	6	B	
Chnl 3	7	I	7	I	Chnl 3
	8	F	8	F	
	9	C	9	C	

Standard memory configuration (1 CPU model)

- 6GB, consisting of three (3) 2GB dual-rank PC3-10600 RDIMMs

Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; empty	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; empty	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; empty	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory plus optional memory (1 CPU model)

- 54GB, consisting of three (3) 2GB RDIMMs plus six (6) 8GB RDIMMs
  - 3x 2GB dual-rank PC3-10600 RDIMMs
  - 6x 8GB dual-rank PC3-8500 RDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; 8GB DIMM	1	G; empty	Chnl 1
	2	D; 8GB DIMM	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; 8GB DIMM	4	H; empty	Chnl 2
	5	E; 8GB DIMM	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; 8GB DIMM	7	I; empty	Chnl 3
	8	F; 8GB DIMM	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory replaced with optional memory (1 CPU model)
RDIMM maximum configuration

- 72GB, consisting of nine (9) 8GB dual-rank PC3-8500 RDIMMs

Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; 8GB DIMM	1	G; empty	Chnl 1
	2	D; 8GB DIMM	2	D; empty	
	3	A; 8GB DIMM	3	A; empty	
Chnl 2	4	H; 8GB DIMM	4	H; empty	Chnl 2
	5	E; 8GB DIMM	5	E; empty	
	6	B; 8GB DIMM	6	B; empty	
Chnl 3	7	I; 8GB DIMM	7	I; empty	Chnl 3
	8	F; 8GB DIMM	8	F; empty	

UDIMM maximum configuration (1 CPU model)

- 12GB, consisting of six (6) 2GB dual-rank PC3-10600 UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 2GB DIMM	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 2GB DIMM	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 2GB DIMM	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory replaced with optional memory (2 CPU model)
RDIMM maximum configuration

- 384GB, consisting of twelve (12) 32GB quad-rank PC3L-8500 RDIMMs

Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 32GB DIMM	2	D; 32GB DIMM	
	3	A; 32GB DIMM	3	A; 32GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 32GB DIMM	5	E; 32GB DIMM	
	6	B; 32GB DIMM	6	B; 32GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 32GB DIMM	8	F; 32GB DIMM	
	9	C; 32GB DIMM	9	C; 32GB DIMM	

UDIMM maximum configuration (2 CPU model)

- 24GB, consisting of twelve (12) 2GB dual-rank PC3-10600 UDIMMs

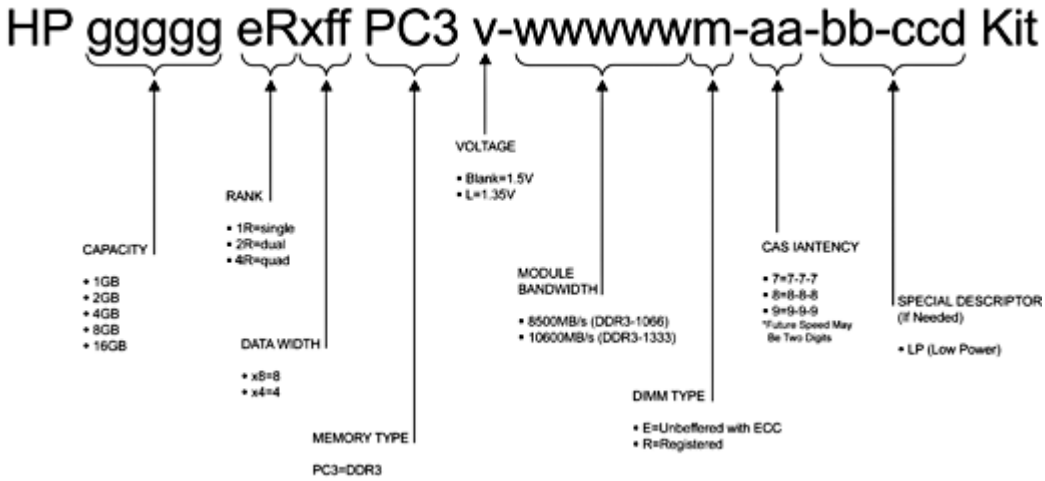
	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 2GB DIMM	2	D; 2GB DIMM	
	3	A; 2GB DIMM	3	A; 2GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 2GB DIMM	5	E; 2GB DIMM	
	6	B; 2GB DIMM	6	B; 2GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 2GB DIMM	8	F; 2GB DIMM	
	9	C; 2GB DIMM	9	C; 2GB DIMM	

NOTE: Capacity references are rounded to the common Gigabyte values.

- 1GB = 1024MB
- 2GB = 2048MB
- 4GB = 4096MB
- 8GB = 8192MB
- 16GB = 16384MB
- 32GB = 32768MB

DDR3 memory options part number decoder

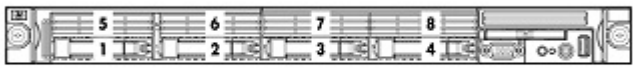
Memory

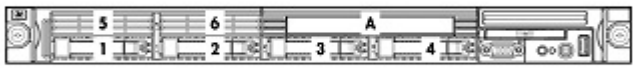


Following are memory options available from HP:

HP Memory	Registered DIMMs (RDIMMs)	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604504-B21
	NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604506-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
	HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit	627812-B21
	HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit	627814-B21
	NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21

HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit	619488-B21

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.
NOTE: PC3L is a low voltage memory.

1-8 8 x SFF SAS Hot Pluggable Hard Drive Bays. Optical Media Bay not available for this configuration



1-4 4 x SFF SAS Hot Pluggable Hard Drives

A Optical Media Bay

5, 6 Blanks (these HDD Bays are not available when DVD installed)

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
HP DL360 SL 12.7mm SATA DVD-RW	1	Slim Line Bay	Integrated SATA
HP DL360 SL 12.7mm SATA DVD NOTE: DVD/Optical drive options supported on 4 hard drive models only.	1	Slim Line Bay	Integrated SATA

Hard Drives

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

	Quantity Supported	Position Supported	Controller
900GB 6G SAS 10K 600GB 6G SAS 10K 450GB 6G SAS 10K 300GB 6G SAS 10K 146GB 6G SAS 15K 146GB 6G SAS 10K 72GB 6G SAS 15K	8	1-8	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
1TB 6G SAS 7.2K 500GB 6G SAS 7.2K	8	1-8	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
1TB 3G SATA 7.2K 500GB 3G SATA 7.2K	8	1-8	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug Midline (MDL) Solid State Drives

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA 120GB 3.0G SATA	8	1-8	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

6G SAS Hot Plug Enterprise Performance Solid State Drives

	Quantity Supported	Position Supported	Controller
200GB 6G SAS SLC SFF 400GB 6G SAS SLC SFF	8	1-8	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

6G SAS Hot Plug Enterprise Mainstream Solid State Drives

	Quantity Supported	Position Supported	Controller
800GB 6G SAS MLC SFF 400GB 6G SAS MLC SFF 200GB 6G SAS MLC SFF	8	1-8	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

Storage

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
60 Modular Smart Array	Up to 4	External	HP Smart Array P212/256 MB Controller
	Up to 8	External	HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/1G Flash Backed Write Cache HP Smart Array P812/1G Flash Backed Cache Controller
70 Modular Smart Array	Up to 2	External	HP Smart Array P212/256 MB Controller
	Up to 4	External	HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/1G Flash Backed Write Cache HP Smart Array P812/1G Flash Backed Cache Controller
D2600 Disk Enclosure	Up to 4	External	HP Smart Array P212/256 MB Controller
	Up to 8	External	HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/1G Flash Backed Write Cache HP Smart Array P812/1G Flash Backed Cache Controller
D2700 Disk Enclosure	Up to 2	External	HP Smart Array P212/ 256 MB Controller
	Up to 4	External	HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/1G Flash Backed Write Cache HP Smart Array P812/1G Flash Backed Cache Controller

Tape and Disk Backup

NOTE: For the complete range of tape drives, autoloaders, libraries and media, including the internal fitting models, see: http://www.hp.com/go/tape. For the complete range of D2D Backup Systems see: http://www.hp.com/go/d2d. For the complete range of RDX drives and media see: http://www.hp.com/go/rdx. For hardware and software compatibility of HP disk and tape backup products see: http://www.hp.com/go/connect.

	Position Supported	Controller	Part Number
HP SCSI Tape Drives LTO-1 Ultrium 232 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-3 Ultrium 960 LTO4 Ultrium 1760 LTO-4 Ultrium 1840 DAT 40 DAT 72 DAT 160 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter	412911-B21

Storage

HP USB Tape Drives DAT 40 DAT 72 DAT 160 DAT 320 1U USB Rack-Mount Kit	External	USB 2.0 Port	N/A
HP SAS Tape Drives DAT 160 DAT 320 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-4 Ultrium 1760 LTO-4 Ultrium 1840 LTO-5 Ultrium 3000 LTO-5 Ultrium 3280 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	462828-B21
HP SCSI Tape Autoloaders DAT 72x10 Autoloader 1/8 G2 Autoloader	External	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	412911-B21
HP SCSI Tape Libraries, External MSL2024 MSL4048 MSL8096 MSL6000	External	HP StorageWorks U320e SCSI Dual Channel Host Bus Adapter NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	AH627A
HP SAS Tape Autoloaders and Libraries 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096	External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	462828-B21
HP Fibre Channel Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000	External	Please consult the EBS connectivity matrix at: http://www.hp.com/go/ebs for connectivity information and the supported Fibre Channel HBAs shown in this QuickSpecs.	N/A
HP USB RDX Removable Disk Backup System RDX160	External	USB 2.0 Port	N/A

Storage

RDX320 RDX500 RDX750 RDX1TB			
HP D2D Backup Systems, iSCSI D2D2500i D2D4000i	External	Embedded Network Controller. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	
HP D2D Backup Systems, Fibre Channel D2D4000fc	External	Direct server attach is not supported, requires connection via SAN fabric. See: http://www.hp.com/go/connect	N/A

Power Specifications

HP 460W Common Slot Gold Hot Plug Power Supply Kit							
Part Number	503296-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	460	460	460	460	460	460	460
Nominal Input Current (A rms)	5.5	4.5	2.6	2.5	2.4	2.3	2.2
Maximum Rated Input Wattage Rating (Watts)	526	520	505	505	503	503	503
Maximum Rated VA (Volt-Amp)	548	542	527	527	524	524	524
Efficiency (%)	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	1794	1773	1725	1725	1715	1715	1715

HP 460W Common Slot Platinum Hot Plug Power Supply Kit							
Part Number	593188-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	460	460	460	460	460	460	460
Nominal Input Current (A rms)	5.3	4.3	2.5	2.4	2.3	2.2	2.1
Maximum Rated Input Wattage Rating (Watts)	512	505	493	493	492	492	491
Maximum Rated VA (Volt-Amp)	526	518	506	506	505	505	504
Efficiency (%)	89.8	91.2	93.2	93.3	93.5	93.6	93.6
Power Factor	0.985						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	1747	1722	1683	1682	1679	1678	1677

Power Specifications

HP 750W Common Slot Gold Hot Plug Power Supply Kit							
Part Number	512327-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	750	750	750	750	750	750	750
Nominal Input Current (A rms)	8.9	7.4	4.3	4.1	3.9	3.7	3.6
Maximum Rated Input Wattage Rating (Watts)	857	847	824	824	820	820	820
Maximum Rated VA (Volt-Amp)	894	884	859	854	854	854	
Efficiency (%)	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	2925	2892	2812	2812	2797	2797	2797

HP 750W Common Slot Platinum Hot Plug Power Supply Kit							
Part Number	593831-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	750	750	750	750	750	750	750
Nominal Input Current (A rms)	8.6	7.1	4.2	4.0	3.8	3.6	3.4
Maximum Rated Input Wattage Rating (Watts)	841	828	809	808	807	806	805
Maximum Rated VA (Volt-Amp)	863	850	830	829	828	827	826
Efficiency (%)	89.2	90.6	92.7	92.8	93	93.1	93.2
Power Factor	0.985						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	2868	2825	2761	2757	2753	2749	2747

Power Specifications

HP 1200W Common Slot Silver Hot Plug Power Supply Kit							
Part Number	500172-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.7	9.0	7.0	6.8	6.4	6.1	5.9
Maximum Rated Input Wattage Rating (Watts)	930	1034	1348	1348	1348	1348	1348
Maximum Rated VA (Volt-Amp)	970	1079	1406	1406	1406	1406	1406
Efficiency (%)	86	87	89	89	89	89	89
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	3174	3530	4600	4600	4600	4600	4600

HP 1200W Common Slot Silver Hot Plug Power Supply Kit			
Part Number	437573-B21		
Input Voltage Range (V rms)	36-72		
Frequency Range (Nominal) (Hz)	DC		
Nominal Input Voltage (Vrms)	36	48	72
Maximum Rated Output Wattage Rating	1200	1200	1200
Nominal Input Current (A rms)	38	28	19
Maximum Rated Input Wattage Rating (Watts)	1380	1350	1365
Maximum Rated VA (Volt-Amp)	1380	1350	1365
Efficiency (%)	87	89	88
Power Factor	N/A		
Leakage Current (mA)	N/A		
Maximum Inrush Current (A peak)	20	25	35
Maximum Inrush Current duration (mS)	1	1	3
Maximum British Thermal Unit Rating (BTU-Hr)	4713	4610	4662

To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor

System Unit	**Dimensions** (H x W x D) (with bezel)	1.70 x 16.78 x 27.25 in (4.32 x 42.62 x 69.22 cm)	
	Weight (approximate)	Maximum (all hard drives, power supplies, and processors installed)	39.5 lb (17.92 kg)
		Minimum (one hard drive, power supply, and processor installed)	32 lb (14.51 kg)
	Input Requirements (for Standard 460W PSU, see power specifications tables for detail on 460W, 750W and 1200W power supplies)	Rated Line Voltage	100 to 240 VAC
		Rated Input Current	4.5 Amps (at 120VAC) to 2.2 Amps (at 240 VAC)
		Rated Input Frequency	50 to 60 Hz
	BTU Rating	Maximum	1773 BTU / hr (at 120 VAC), 1715 (at 240 VAC)
	Power Specifications	To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor - Click on the system of interest. Example: DL360 G7 - Follow the instructions of the next screens.	
	Power Supply Output (per power supply)	Rated Steady-State Power	460 W (at 100 VAC), 460 W (at 200 VAC)
		Maximum Peak Power	460 W (at 100 VAC), 460 W (at 200 VAC) NOTE: See Power Supply Specifications tables for complete details on 460W PSU and optional 750W and 1200W Power Supply Options.
	System Inlet Temperature	Operating	10° to 35° C (50° to 95° F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8° F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10° C/hr (18° F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30° C (86° F).
		Non-operating	-30° to 60° C (-22° to 140° F). Maximum rate of change is 20° C/hr (36° F/hr).
	Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 28° C (82.4° F) maximum wet bulb temperature, non-condensing.

	Non-operating	5 to 95% relative humidity (Rh), 38.7° C (101.7° F) maximum wet bulb temperature, non-condensing.
Altitude	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23° C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).

Idle (Single Processor, Note 1)

L WAd	4.3 B Average Bystander
L pAm	27 dBA

Operating

L WAd	4.8 B Average Bystander
L pAm	32 dBA

Idle (Dual Processors, Note 2)

L WAd	4.9 B Average Bystander
L pAm	33 dBA

Operating

L WAd	5.4 B Average Bystander
L pAm	38 dBA

NOTES:

Note 1) Configuration tested included an Intel X5520 quad-core 2.27GHz processor, one 72GB SAS HDD, four 250GB 5400 rpm SATA hard drives, six system fans, three 4GB(2x2GB) DIMM's, and one power supply (1P SKU).
Note 2) Configuration tested included two Intel X5520 quad-core 2.27GHz processors, one 72GB SAS HDD, four 250GB 5400 rpm SATA hard drives, eight system fans, six 4GB(2x2GB) DIMM's, and one power supply (2P SKU).
Note 3) Values are subject to change without notification and are for reference only.
Note 4) Performance of system, options, and ancillary equipment will vary depending on the system configuration.
Note 5) Levels presented do not account for non-Hewlett-Packard installed hardware.

Emissions Classification (EMC)	FCC Rating	Class A
	Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22; K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

Integrated Lights-Out 3 (iLO 3) integrated on system board	Architecture	PCI Express based health and remote management ASIC
	Processor	PCI Express RISC processor core running at 250MHz
	Upgradeability	Option firmware upgradeable via Flash ROM.
	Video Support	1600 x 1200 DVR max resolution
	Interfaces	One Ethernet Sideband connection (10/100/1000 Mb/s)
		One Ethernet network connection (10/100Mb/s)
	Memory	128-MB SDRAM with ECC
	Operating System Support	Microsoft Windows 2008 R2
		Microsoft Windows 2008 (32 bit and 64 bit)
		Microsoft Windows Server 2008 Standard Edition (32bit and 64bit)
		Microsoft Windows Server 2008 Enterprise Edition (32bit and 64bit)
		Microsoft Windows Server 2003 and Windows Server 2003 R2, and Windows Server 2003 for Embedded Systems Standard Edition, Enterprise Edition
		Red Hat Enterprise Linux 5.4 (32 bit and 64 bit)
		SUSE LINUX Enterprise Server 11 (32bit and 64bit)
		SUSE LINUX Enterprise Server 10 (32bit and 64bit)
		VMware ESX 4.0
		VMware ESX 3.5.0
	Client System Support	Microsoft Windows 7
		Microsoft Windows XP Professional Edition
		Microsoft Windows Vista Business and Ultimate Editions
		Red Hat Enterprise Desktop 5.00
		SUSE Linux Enterprise Desktop 11
		SUSE Linux Enterprise Desktop 10
	Client Browser Support	Microsoft Internet Explorer 8
		Microsoft Internet Explorer 7
		Microsoft Internet Explorer 6
		Firefox 3.5 (on supported Windows and Linux systems)
		Firefox 3.0 (on supported Windows and Linux systems)
	Command Line Support	Secure Shell and serial port access
	Security	Secure Socket Layer
		Secure Shell version 2 (Password and certificate)
		Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser, CLP and XML scripting interface
		AES encryption of video
		RC4 encryption of video

	Directory Support Services	Active Directory v1.0 (Windows 2003)
	Driver Support	HP ProLiant iLO 3 Management Controller Driver Package iLO Management Channel Interface Driver
	Management protocols supported	SNMP, IPMI 2.0 (System and LAN interface), DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP), HP RIBCL XML
Smart Array P410i Controller	Dimensions	Embedded
	Disk Drive and Enclosure Interface - Transfer rate	6Gb/s SAS (Serial Attached SCSI) 3Gb/s SATA (Serial ATA)
	SAS Connectors	2 internal 4X connectors
	Cache Memory Speed	DDR2-800MHz with 40 or 72-bit wide bus
	Server Interface	x4 PCIe 2.0 provides 2GB/s maximum bandwidth
	SAS Speed	8 6Gb/s SAS links provide 4.8GB/s maximum bandwidth
	Cache Memory	Zero Memory RAID has no cache memory 40-bit 256MB ECC protected cache (battery upgrade available) 72-bit 512MB BBWC or 72-bit 512MB and 1G FBWC
	Logical Drives Supported	Zero Memory, Up to 2 logical volumes (8 physical drives) Up to 64 logical drives with cache
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space
	RAID Support	RAID 6, 6+0 (Advanced Data Guarding) NOTE: RAID 6, 6+0 can be enabled with one of the following combinations: • 256 MB cache, Battery kit and Smart Array Advanced Pack License key option upgrades • 512 MB BBWC/FBWC and Smart Array Advanced Pack License key option upgrades • 1G FBWC and Smart Array Advanced Pack License key option upgrades RAID 5, 5+0 (Distributed Data Guarding) NOTE: A minimum or 256 MB cache is required to enable RAID 5, 5+0 support RAID 1+0 (Striping & Mirroring) RAID 0 (Striping), RAID 1 (Mirroring)

Technical Specifications

Embedded NC382i Dual Port Multifunction Gigabit Server Adapter	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
		IEEE 802.3ad 1000Base-TX	
		IEEE 802.1p 100Base-TX	
		IEEE 802.1q 100Base-TX	
	Data Transfer Method	PCI Express, four lanes (x4)	
	Controller	BCM5709C	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-TX (Half and Full-Duplex)	2000 Mb/s
	Connector	Two RJ-45	
	Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)
		100Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)
		1000BaseTX	Category 5 or higher UTP; up to 328 ft (100 m)

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.